REMARKS

Claims 27, 29-42, 44-46, 48-50, 52-54 and 62-64 are pending in the application.

Claims 27, 29-42, 44-46, 48-50, 52-54 and 62-64 have been rejected.

Claims 27, 29-33, 36-42, 44-46, 48-50, 52, 53, 63 have been amended.

Formal Matters

Appreciation is expressed for the telephonic interview conducted on June 15, 2009 between Examiner Doan, SPE Shah, Michael Moore, and the undersigned ("the Interview"). During the Interview, the Lee reference was discussed with reference to independent claim 27. The undersigned believes this paper is in harmony with the positions expressed during the interview.

Rejection of Claims under 35 U.S.C. §112

Claims 46, 48, 49 and 63 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicants respectfully submit that these rejections are moot in light of the amendments presented herein.

Rejection of Claims under 35 U.S.C. § 102(e)

Claims 27, 29-42, 44-46, 48-50, 52-54 and 62-64 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Publication No. 2003/0149683 citing Lee, et al. as inventors ("Lee"). To the extent that this rejection might be applied against the amended claims, Applicants respectfully traverse this rejection. Applicants respectfully submit that the arguments presented below with respect to independent claim 27 are generally applicable to independent claims 42, 46, 50, and 54 (which contain features similar to claim 27), and claims 29-41, 44, 45, 48, 49, 52, 53, and 62-64 (which depend from these independent claims.)

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Exemplary claim 27 recites:

A method comprising:

in response to a request to perform a first operation on a volume, wherein
      the volume comprises a plurality of physical locations, one or more of the
            physical locations having data stored thereon:
accessing a volume sieve, wherein the volume sieve comprises:
      a property, wherein
            the property includes information identifying one or more operations,
                the one or more operations are performed in response to the request to
                    perform the first operation, and
                the one or more operations are performed on a set of physical locations of
                    the volume, wherein the set of physical locations is identified by a
                    set of location descriptions; and
      the set of location descriptions, wherein
            each location description of the set of location descriptions identifies one
                or more of the physical locations of the volume, and
            the set of location descriptions identifies all the physical locations within
                the volume upon which the operations can be performed;
detecting whether a given physical location is identified by the set of location
      descriptions;
performing the one or more operations upon the given physical location if the given
      location description is identified by the set of location descriptions.

Applicants respectfully submit that the cited passages of Lee do not disclose each element of independent claim 27. Specifically, the cited passages of Lee fail to teach at least "a request to perform a first operation on a volume, wherein the volume comprises a plurality of physical locations."

The Office Action cites Lee's FIG. 1 as purportedly disclosing "in response to a request to perform an operation on a volume," stating that Lee's FIG. 1 shows "a request of an application for an operation regarding data in [a] storage system." Office Action, p. 3. However, Lee's applications are only capable of requesting operations on logical objects (e.g., files), and cannot request operations in a physical space. *See, e.g.,* Lee ¶ [0044] ("[A]pplication programs…operate on logical objects (e.g., files) in application space.").

As discussed in the Interview, Lee discloses an awareness of both logical and physical space and mapping between the two. However, this awareness is not sufficient to anticipate claim 27, which recites "a request to perform an operation on a volume."

Mere awareness of the physical space is not comparable to actually requesting that an operation be performed therein. In order to request an operation on one or more of the physical locations of the volume, one must be able to identify the physical locations. However, Lee explicitly states that applications cannot operate (e.g., request operations) in physical space. *See* Lee ¶ [0048] ("[A]n application program executing in application space has no understanding of how the logical blocks of data…correspond to the physical blocks stored in physical space.") Thus, the cited passages of Lee fail to disclose the claimed feature of "in response to a request to perform a first operation on a volume, wherein the volume comprises a plurality of physical locations."

The cited passages of Lee also fail to teach at least "accessing a volume sieve" that comprises a property and set of location descriptions. The Office Action cites paragraphs [0044-0046] as purportedly describing "metadata/sieve describes objects, files, mapping locations, etc, for operation of the application." Office Action, p. 4. Applicants note there is no mention of a sieve anywhere in the cited portions of Lee. Furthermore, the cited portions of Lee fail to disclose any concept analogous to a sieve. Lee discloses metadata, but discloses that the metadata is used by a storage system in physical space, not an application in logical space, contrary to the Office Action's assertion. *See* Lee, ¶ [0042].

Furthermore, the cited portions of Lee fail to disclose any structure comparable to a sieve comprising two components, a property and a set of location descriptions. In light of this, it is unsurprising that the cited passages of Lee fail to teach the claimed property. Applicants have amended claim 27 to clarify that "a property includes information identifying one or more operations, the one or more operations are performed in response to the request to perform the first operation, and the one or more operations are performed on a set of physical locations of the volume, wherein the set of physical locations is identified by the sieve." The Office Action states ¶ [0008] of Lee discloses a property identifying an operation by teaching that metadata identifies such operations such as add, delete, and modifying. Office Action, p. 4. The identification of operations disclosed by the cited passages of Lee is not comparable to the claimed information in the property of the sieve that identifies operations. The cited passage makes cursory reference to the ability of a logical space application (database) to identify file blocks that

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have been changed. Lee, ¶ [0008]. The cited passage explains that the types of changes the database application can identify include addition, deletion, or modification. *Id.* Simply listing several types of logical operations a database application can perform is a far cry from disclosing a property (which is included in a volume sieve) that identifies one or more operations, performed in response to a request to perform a first operation, wherein the operations are performed on a set of physical locations that are identified by the sieve.

The cited passages of Lee also fail to disclose that the one or more operations are performed on a set of locations included in a sieve. The cited passages instead suggest that Lee's system examines the block header of each file data block on a block by block basis to determine if that block has changed since a previous point in time. Lee, ¶ [0014-0015]. In this way, an incremental backup can backup only the changed blocks. *Id.*

The cited passages of Lee also fail to disclose that "the set of location descriptions identifies all the physical locations within the volume upon which the operations can be performed." As noted, Lee fails to disclose any such set of location descriptions. Claim 27 recites that all physical locations to which an operation is applicable are known and identified in the sieve's set of locations. To the contrary, Lee discloses that each data block of a logical object must be examined to determine if the block header indicates that the data block has been changed. If the header so indicates, the block can be backed up.

Since the cited passages of Lee fail to disclose a sieve, the cited passages of Lee must also fail to disclose accessing the sieve and "detecting whether a given physical location is identified by the set of location descriptions [and] performing the one or more operations upon the given physical location if the given location description is identified by the set of location descriptions." The cited passages of Lee disclose that, having no set of locations identified by a sieve, each block of a logical object is examined to determine whether to include the block in a backup. It can be seen that the claimed invention avoids the necessity, present in Lee, to examine each block. Instead, the claimed invention allows one to access the sieve, and if a physical location is identified by the sieve, one or more operations are performed on the physical location.

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For at least the foregoing reasons, Applicants respectfully request the Examiner's reconsideration and withdrawal of the rejections to these claims and an indication of the allowability of same.

CONCLUSION

In view of the amendments and remarks set forth herein, the application and the claims therein are believed to be in condition for allowance without any further examination and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned at 512-439-5092.

If any extensions of time under 37 C.F.R. § 1.136(a) are required in order for this submission to be considered timely, Applicants hereby petition for such extensions. Applicants also hereby authorize that any fees due for such extensions or any other fee associated with this submission, as specified in 37 C.F.R. § 1.16 or § 1.17, be charged to Deposit Account 502306.

Respectfully submitted,

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